

Title: Satellite Data Support for Hydrologic and Water Resource Planning and Management

Investigator(s): Soroosh Sorooshian (PI)

Institution: University of California Irvine, Center for Hydrometeorology and Remote Sensing

Background

Satellite-derived precipitation products are gaining recognition as viable source of information on precipitation for research and application. Among these applications are regional hydrologic modeling, data assimilation into weather models, and validation and verification of regional numerical weather models as well as global climate models. However, the applicability of satellite precipitation to hydrologic applications that focus on design and planning is limited due to factors such as their spatial resolution, limitation on record length, and lack of quantitative information about uncertainties in satellite precipitation at the required spatial and temporal scales. This task focuses on addressing these challenges and initiating the development of approaches that can lead to improve utilization of satellite precipitation in hydrologic application and water resources planning and management. This research effort intends to focus on three different thematic areas: (1) climatic analysis of spatial and temporal variability of sub-daily extreme precipitation over United States for past decades, (2) quantification of uncertainty in satellite precipitation estimation, and (3) expanded frequency analysis of extreme rainfall using satellite precipitation data.

Additional Information may be located at:

<http://cicsnc.org/projects/soroosh-sorooshian.html>